

**BY ORDER OF THE COMMANDER  
AIR EDUCATION AND TRAINING  
COMMAND**



**AF INSTRUCTION 11-2H-1, VOLUME 3**

**AIR EDUCATION AND TRAINING COMMAND  
Supplement 1**

**1 AUGUST 2002**

***Flying Operations***

***H-1 HELICOPTER OPERATIONS PROCEDURES***

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

---

**NOTICE:** This publication is available digitally on the HQ AETC Publishing WWW site at: <http://www.aetc.randolph.af.mil/im>. If you lack access, contact your base publishing manager.

---

OPR: HQ AETC/DOFV (Major David Newton)      Certified by: HQ AETC/DOF (Col Michael Maffei)  
Pages: 9  
Distribution: F

---

**AFI 11-2H-1, Volume 3, 1 November 1999, is supplemented as follows:**

This supplement is not applicable to Air National Guard or Air Force Reserve Command units. Submit suggested improvements to this instruction on AF Form 847, **Recommendation for Change of Publication**, through local standardization/evaluation (stan/eval) channels to HQ AETC/DOFV, 1 F Street Suite 2, Randolph AFB TX 78150-4325. Maintain and dispose of records created as a result of processes prescribed in this publication in accordance with AFMAN 37-139, *Records Disposition Schedule* (will become AFMAN 33-322, Volume 4).

1.4. Request waivers to this supplement through stan/eval channels to HQ AETC/DOF. Waivers to unit-level supplemental guidance will be handled by the operations group (OG) or training group (TRG) commander (CC) of the unit generating the supplement.

1.5.1. Forward unit supplements through stan/eval channels to HQ AETC/DOFV for approval prior to publication.

1.5.2. The chapter 17 and 18 format suggested in the basic instruction is not authorized for AETC.

2.1.3. (Added)(AETC) The final decision to delay a mission may be made by either the unit/mission commander or the aircraft commander when, in the opinion of either, conditions are not safe to start or continue a mission. Final responsibility for the safe conduct of the mission rests with the aircraft commander.

2.1.4. (Added)(AETC) The final decision regarding equipment required for a mission rests with the aircraft commander. When the aircraft commander considers an item essential for the accomplishment of the mission, the aircraft commander will designate the component mission-essential, and it will be repaired or

replaced prior to departure. Acceptance of an aircraft by an aircraft commander to operate one mission (or mission segment) without an item or system does not commit that aircraft commander or a different aircraft commander to subsequent operations with the same items/systems inoperative.

2.2. The mission commander's primary responsibility is to take care of mission personnel and any details required for the mission crew to execute the mission. As such, under normal circumstances, the mission commander should not be an active crewmember involved in flying duties. Waiver authority is the OG/CC or TRG/CC.

**2.2.1. (Added)(AETC) Aircraft Commander Responsibility and Authority.** An aircraft commander must be designated on the flight authorization in accordance with AFI 11-401, *Flight Management*. Aircraft commanders are:

2.2.1.1. (Added)(AETC) In command of all persons aboard the aircraft.

2.2.1.2. (Added)(AETC) Responsible for the welfare of the crew and the safe accomplishment of the mission.

2.2.1.3. (Added)(AETC) Vested with the authority necessary to manage their crew and accomplish the mission.

2.2.1.4. (Added)(AETC) The final mission authority and responsible for decisions not specifically assigned to higher authority.

2.2.1.5. (Added)(AETC) The final authority for asking for and accepting any waiver affecting their crew or mission.

2.2.1.6. (Added)(AETC) Charged with keeping the applicable commander informed concerning mission progress.

2.5.4. (Added)(AETC) To allow newly assigned crewmembers to learn the unit flying mission as effectively and quickly as possible, they should not be assigned any non-flying related additional duties prior to the end of their second month on station.

2.6.1. Minimum crew for simulated instrument procedures in visual meteorological conditions (VMC) is the aircraft commander and copilot.

2.6.2. Minimum crew for low-level, tactical, and formation operations at or above 100 feet above the highest obstacle (AHO) is a mission qualified aircraft commander and a mission qualified copilot.

2.6.4. Minimum crew for a search and rescue/medical evacuation (SAR/MEDEVAC) is a mission qualified aircraft commander, a mission qualified copilot, and a mission qualified flight engineer.

2.6.5. Minimum crew for unaided night operations is an aircraft commander and a copilot.

2.8. If applicable, alert procedures will be outlined in the local unit supplement to this instruction.

**2.9.1. (Added)(AETC) Functional Check Flights (FCF) Aircrew Selection.** The unit commander will select FCF crewmembers based on their experience/expertise in the aircraft. Solid flying skills, thorough systems knowledge, and maturity are essential. Crewmembers FCF certified in the UH-1N at a previous assignment may continue to maintain FCF certification at a new UH-1N unit at the discretion of the unit commander. Units will document certification on the AF Form 1381, **USAF Certification of Aircrew Training**, as directed by AFI 11-2H-1, Volume 1.

**2.9.2. (Added)(AETC) FCF Upgrade/Currency Requirements.** Crewmembers designated by the unit commander to perform FCF duties will accomplish an FCF training program as defined by the local unit in their supplement to this instruction. Individuals must maintain basic qualification and instrument currency to perform FCF duties.

***Section 2G (Added)(AETC)—General Operating Policies***

**2.12. (Added)(AETC) Altitude Restrictions.** Conduct all flying operations at or above 500 feet AGL except when lower altitudes are required for takeoff, landing, operational missions, and training flights in approved areas or on approved routes. Minimum altitude for low-level flight is 50 feet AHO.

**2.13. (Added)(AETC) Wind Restrictions.** Discontinue flight when:

**2.13.1. (Added)(AETC) Training/Exercise Sorties:**

2.13.1.1. (Added)(AETC) Thirty knots steady state.

2.13.1.2. (Added)(AETC) Forty knots steady state with an instructor pilot in command.

**2.13.2. (Added)(AETC) Operational Sorties.** Restrictions will be in accordance with the flight manual.

**2.14. (Added)(AETC) Aircraft Taxi Obstruction Clearance Criteria:**

2.14.1. (Added)(AETC) Without wing walkers, avoid taxi obstructions by at least 25 feet; with wing walkers, avoid taxi obstructions by at least 10 feet.

2.14.2. (Added)(AETC) When taxi obstructions are doubtful use a wing walker. If wing walkers are not available or if provided but doubt still exists as to proper clearance, deplane a crewmember to maintain obstruction clearance.

**2.15. (Added)(AETC) Visual Flight Rules (VFR) Training Weather Minimums.** Operational flights will comply with weather minimums in AFI 11-202, Volume 3, *General Flight Rules*.

**2.15.1. (Added)(AETC) Day:**

2.15.1.1. (Added)(AETC) Single-pilot operations: 700/2.

2.15.1.2. (Added)(AETC) Dual-pilot operations: 500/2.

**2.15.2. (Added)(AETC) Night:**

2.15.2.1. (Added)(AETC) Night unaided: 1,000/2.

2.15.2.2. (Added)(AETC) NVG operations: 700/2.

**2.16. (Added)(AETC) Instrument Procedures.** Comply with the UH-1N flight manual and all applicable Air Force instructions and publications. In addition:

2.16.1. (Added)(AETC) The use of self-contained approaches are prohibited.

2.16.2. (Added)(AETC) Current UH-1N global positioning systems (GPS) are considered mission enhancement systems and are not authorized as the primary instrument for instrument flight rules (IFR). The GPS may be used to assist in maintaining situational awareness while under VFR.

2.16.3. (Added)(AETC) Pilots will not fly Category II and III approaches in AETC UH-1N aircraft.

2.16.4. (Added)(AETC) IFR takeoff minimums:

**2.16.4.1. (Added)(AETC) Training Flights.** Weather equal to or higher than published approach minimums (ceiling and visibility), but no less than 1/2 mile (2,400 runway visual range [RVR]) at the departure airfield.

**2.16.4.2. (Added)(AETC) Operational Flights:**

2.16.4.2.1. (Added)(AETC) Without a departure alternate, weather at the departure airfield must be equal to or above the published visibility required for the appropriate aircraft category for an available approach.

2.16.4.2.2. (Added)(AETC) With a departure alternate, weather at the departure airfield must be equal to or above one-half the published visibility minimum required for the appropriate aircraft category, but no less than 1/4 mile (1,200 RVR) for an available approach. Published visibility is required if a copter-only approach is used at the departure airfield. Select the departure alternate using the following criteria:

2.16.4.2.2.1. (Added)(AETC) Departure alternate should be within 60 minutes flying time.

2.16.4.2.2.2. (Added)(AETC) Weather en route to the departure alternate must permit flight within aircraft limitations. For example, the aircraft must be capable of maintaining minimum en route altitude ([MEA] or minimum obstruction clearance altitude [MOCA], whichever is higher) to the alternate if an engine fails.

2.16.4.2.2.3. (Added)(AETC) The departure alternate prevailing weather must be equal to or better than the lowest published approach ceiling and visibility minimum (no lower than 1,200 RVR) and forecast to remain so for estimated time of arrival (ETA) plus 90 minutes after takeoff.

**2.16.4.3. (Added)(AETC) Life or Death Missions.** During life or death missions, helicopters may take off if the visibility is sufficient to taxi to the takeoff area. Ensure an appropriate course of action is available (and briefed) in the event of an emergency after takeoff.

**2.17. (Added)(AETC) Adverse Weather:**

2.17.1. (Added)(AETC) Do not operate the aircraft in weather conditions that can exceed the limitations of the crew or the aircraft (as specified in the flight manual). If adverse weather is encountered, take immediate action to avoid further flight in the hazardous conditions by either diverting or landing.

2.17.2. (Added)(AETC) No AETC mission requires an aircraft penetrate a thunderstorm. Flights may be made into areas of known or forecast thunderstorms if VMC is maintained and thunderstorm activity is avoided by a **minimum** of 5 nautical miles (NM). Flights will not be made into rain shafts beneath cumulonimbus clouds.

## **2.18. (Added)(AETC) Fuel Planning:**

2.18.1. (Added)(AETC) For flight planning purposes, when visibility-only criterion is used or when destination weather may be unreliable, the fuel requirement for descent, approach, and missed approach will be no less than 250 pounds.

2.18.2. (Added)(AETC) For all flights VFR or IFR, plan to arrive at the destination with a minimum of 200 pounds of reserve fuel.

## **2.19. (Added)(AETC) Aircraft Equipment:**

2.19.1. (Added)(AETC) The UH-1N aircraft is considered to have an anti-collision light system.

2.19.2. (Added)(AETC) The radar altimeter should be operational for tactical and night operations (aided and unaided). In VMC, normally the radar altimeter is set to the appropriate auto rotational flare altitude. During tactical, unaided night, and night vision goggle (NVG) operations, the recommended setting is 80 percent of the height you intend to fly. For instrument approaches, the pilot flying the approach should set the radar altimeter to the appropriate height above airport (HAA) or height above touchdown (HAT) prior to the final approach fix (FAF).

## ***Section 2H (Added)(AETC)—Aircrew Management***

## **2.20. (Added)(AETC) Predeparture Crew Rest:**

2.20.1. (Added)(AETC) Provide crewmembers a crew rest period beginning 12 hours before reporting for a mission. In the event of a short-notice mission tasking or when a scheduled crewmember becomes unable to fly, it is permissible to contact crewmembers that have not been previously placed in crew rest and ask if they are sufficiently rested to fly. If crewmembers have had 12 hours of crew rest, they may fly on the mission.

2.20.2. (Added)(AETC) Predeparture crew rest is waived for flight surgeons and medical technicians who are called for urgent SAR/MEDEVAC missions. Under no circumstances may a flight surgeon or medical technician called to duty with less than 12 hours of crew rest be used as a scanner or log flight time on AFTO Form 781, **Mission Data**.

2.20.3. (Added)(AETC) For routine aircrew scheduling, crewmembers will be notified of a specific time to start predeparture crew rest. Notification must be prior to the actual start of crew rest.

**2.21. (Added)(AETC) Post-TDY Crew Rest.** Crew rest normally begins upon the final return of an individual to home station from a flying temporary duty (TDY) and runs continuously until completed. Post-TDY crew rest is computed at the rate of 1 hour off for every 3 hours of TDY not to exceed 72 hours. Post-TDY crew rest is normally completed before starting predeparture crew rest for a subsequent mission. Waiver requests to delay the beginning of post-TDY crew rest may be considered on a case-by-case basis. Waiver authority is the squadron commander (SQ/CC) or 36 RQF/CC.

**2.22. (Added)(AETC) Standby Duty.** Standby duty is defined as a period of time that a crew may be required to launch on an anticipated mission for which a firm departure time cannot be established. Aircrew members will be provided a 12-hour inviolate crew rest period preceding the assumption of standby duty and must be allowed to remain in crew rest until called in for duty. Unit commanders, mission commanders, and operations officers must consider aircrew availability and mission priority when determining periods of standby duty.

**NOTE:** 36 RQF crews TDY to Tacoma Command Post (Cusick, WA) are considered to be in standby status and will not be scheduled for more than 125 hours of continuous standby duty.

### **3.1.6. (Added)(AETC) Life Support Requirements:**

**3.1.6.1. (Added)(AETC) General.** The aircraft commander or designated representative will ensure sufficient quantities of appropriate serviceable life support/survival equipment and protective clothing for the anticipated mission are aboard the aircraft. Review AFTO Form 46, **Prepositioned Life Support Equipment**, prior to flight. The aircraft commander may delay to correct the situation, change the mission so that it may proceed without the appropriate equipment, or cancel the mission if required equipment is not on board the aircraft or is on board but not serviceable. The aircraft commander will annotate AFTO Form 781A, **Maintenance Discrepancy and Work Document**, if a discrepancy is noted either in condition or location of survival equipment.

**3.1.6.2. (Added)(AETC) Survival Vest.** Crewmembers will wear a survival vest on all flights outside the local closed traffic pattern. **EXCEPTION:** Wear of the survival vest is optional with winter weight flight clothing if the combination of the survival vest and the winter weight clothing interferes with aircrew duties. Whenever the survival vest is not worn, it must be immediately available.

### **3.1.6.3. (Added)(AETC) Overwater Requirements:**

**3.1.6.3.1. (Added)(AETC)** All crew and passengers will wear life preservers, and a liferaft will be carried on all overwater flights when the route of flight is beyond auto rotational gliding distance of the shore. Flights of this type also require the crew to have helicopter emergency egress devices (HEED). Life preservers, liferafts, and HEEDs are not required when overwater flights occur for short distances.

**3.1.6.3.2. (Added)(AETC)** Helicopter crewmembers must wear anti-exposure suits on any preplanned over water flight beyond auto rotational distance from land when the water temperature is 60 degrees Fahrenheit or below. Refer to AETC 11-301, *AETC Aircrew Life Support (ALS) Program*, for details.

**3.4.** Accomplish all checklists with strict discipline using the “challenge – response” method. Emergency procedures checklists will employ the “challenge – response – response” method. (For example, the reader of the checklist will verbalize the challenge and the desired action; the person performing the action will re-

verbalize the action to be taken; the flight engineer is reading the checklist for DC generator failure and reads the first step as “check start switch - off.” The person performing the action would respond “off.”)

3.4.1. (Added)(AETC) Unless waived by the aircraft commander, the weight and balance and takeoff and landing data (TOLD) must be completed prior to the scheduled brief.

3.4.2. (Added)(AETC) Prior to each flight, the aircraft commander (or the aircraft commander’s designated representative) will ensure all passengers are briefed in accordance with the flight manual. If additional passengers are added on subsequent sorties during the same day, the new passengers will be completely briefed prior to flight. Briefings must include life support equipment appropriate to the flight profile available for passenger use.

4.1. Unit current weight and balance data must include (as a minimum) the following items:

4.1.1. (Added)(AETC) Computed DD Form 365-4, **Weight and Balance Clearance Form F – Transport/Tactical**, reflecting configurations applicable to normal unit operations.

4.1.2. (Added)(AETC) Equipment weight listing (a list of commonly carried equipment and its weight).

4.1.3. (Added)(AETC) Equipment configuration list (lists or diagrams depicting configurations applicable to normal unit operations).

5.2.5. (Added)(AETC) Forced landing training (for example, the surprise approach of intentionally rolling the throttles to flight idle in order to simulate an engine failure).

5.3.2.1. Units must obtain a one-time survey of all slide areas to determine dimensions (to include slope data) and soil/surface conditions (not applicable for runways/taxiways). This survey will be kept on file in the unit that primarily uses the slide area. The unit commander must certify slide areas annually (at a minimum) or when the condition of the slide area suitability is suspect. The certification will include:

5.3.2.1.1. (Added)(AETC) An inspection of the area for general slide landing suitability. The area must be free of debris, obstructions, uneven terrain, and any other conditions that exist either on or near the slide area that could pose a hazard to flight operations.

5.3.2.1.2. (Added)(AETC) A depiction of the slide area that highlights size, slope, magnetic heading, location of known obstacles, etc.

7.8.3. (Added)(AETC) Crewmembers will only fly with NVGs that they personally preflighted. This does not preclude the use of spare NVGs when necessary; however, if spare NVGs are used by a crewmember who did not perform the preflight, the training sortie must be terminated until the NVGs can be properly preflighted. On operational missions, the aircraft commander must weigh the increased risk of a crewmember flying with NVGs the crewmember did not personally preflight against the urgency of the mission.

7.8.4. (Added)(AETC) If a primary crewmember experiences an NVG failure, and no spare set of NVGs is available, other primary crewmembers wearing NVGs may continue to operate using them in order to get the aircraft into a safe flight regime or to a landing. Flight continued under these circumstances would be accomplished under night unaided weather criterion at no lower than 500 feet AHO.

7.10.3. (Added)(AETC) Under certain circumstances (for example, search and rescue) flight below prescribed en route altitudes may be required. If approved by the unit/mission commander, after full consideration of the additional risks, operations may be conducted down to 150 feet AHO with the crew complement listed in paragraph 2.6.4 of this supplement. Additionally, the planned search area must be surveyed for obstacles before descent from en route altitude, and both radar altimeters must be operative. Extra vigilance is required for escape routes, power requirements, obstacle clearance, and emergency landing areas when operating at lower altitudes.

7.11.1.5. (Added)(AETC) Taping of exterior lights is prohibited.

7.11.2.1. Additional approved interior lighting has been included in TO 1H-1(U)N-4, *IPB (Bell Helicopter Textron)*.

7.14.2.3. Because wind direction and velocity are difficult to discern while flying in low light conditions, the crew should be especially alert to aircraft performance on final approach. During all approaches, on short final before the aircraft is committed to land, analyze variables to include proper closure rate, descent rate (under control), and power (increasing but below anticipated hover power) for clues as to how winds are affecting aircraft performance.

8.7.7. (Added)(AETC) Avoid prolonged operations in the danger areas of the height-velocity diagram. Maintain safe single-engine airspeed during search patterns whenever possible. If flight below safe single-engine airspeed is required, ensure escape routes and intentions are fully briefed to the crew and understood.

8.11.2. Aircraft/mission commanders should ensure that the on-scene commander or controlling agency is familiar with Echo codes prior to initiating the search.

9.6. Stacking low during en route formation is not recommended.

9.15. When conducting lost visual contact training, aircrews will preface the appropriate call with "simulated." For example, "save 21 flight, save 22 is simulated no joy/blind alley."

9.18.1. If lead remains in VMC, but the rest of the flight has broken up due to IMC and has contacted air traffic control (ATC) for IFR clearance, descent will not be made into VMC to rejoin with lead without proper ATC clearance.

10.2.1. AETC guidance on low-level flight is embedded throughout this supplement.

10.15.6. Any crewmember identifying a threat will make crew advisory calls throughout the evasive maneuver.

Figure 11.1. Note 1. Deploy swimmers approximately 100 feet downwind from the survivor in accordance with AFI 11-2H-1, Volume 3, paragraph 11.12.1.3.

12.37. An anchor cable fabricated in accordance with AFI 11-2H-1, Volume 3, paragraph 12.20.1, will be used to secure the rope ladder to the aircraft cargo tie-down rings. Ensure the steel bolt is installed through the anchor cable terminal ends from the bottom up with the lock nut and safety pin on top.

**18.3. (Added)(AETC) Forms Adopted.** DD Form 365-4, AF Form 1381, AF Form 847, AFTO Form 46,



AFTO Form 781, and AFTO Form 781A.

**NOTE: The following are added to Attachment 1:**

***References (Added)(AETC)***

AFMAN 37-139, *Records Disposition Schedule* (will become AFMAN 33-322, Volume 4)  
AETCI 11-301, *AETC Aircrew Life Support (ALS) Program*  
TO 1H-1(U)N-4, *IPB (Bell Helicopter Textron)*

***Abbreviations and Acronyms (Added)(AETC)***

**AETC**—Air Education and Training Command  
**ALS**—aircrew life support  
**ATC**—air traffic control  
**CC**—commander  
**FAF**—final approach fix  
**HAA**—height above airport  
**HAT**—height above touchdown  
**MEA**—minimum en route altitude  
**MOCA**—minimum obstruction clearance altitude  
**OG**—operations group  
**RVR**—runway visual range  
**SQ**—squadron  
**TRG**—training group

THOMAS A. O’RIORDAN, Major General, USAF  
Director of Operations